

Notice of Allowability

Application No.

10/634,756

Examiner

Nikita Wells

Applicant(s)

JUN ET AL.

Art Unit

2881

AW

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06 August 2003.
2. ☒ The allowed claim(s) is/are 1-40.
3. ☒ The drawings filed on 06 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 051304
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Nikita Wells
Primary Examiner
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Detailed Action

Allowable Subject Matter

1. Claims 1-40 are allowed.
2. The following is an examiner's statement of reasons for allowance:

With respect to the independent claims 1, 11, and 18, prior art fails to disclose or make obvious, in addition to the accompanying features of the claims, a method for monitoring an ion implanter, comprising: positioning a substrate behind an interceptor for intercepting a portion of an ion beam to be irradiated toward the substrate; irradiating a first ion beam toward the substrate to form a first shadow on the substrate, rotating the substrate about a central axis of the substrate, irradiating a second ion beam toward the substrate to form a second shadow on the substrate, and measuring a dosage of ions implanted into the substrate to monitor whether the rotation of the substrate has been normally performed.

With respect to the independent claim 24, prior art fails to disclose or make obvious, comprising in addition to the accompanying features of the claims, an ion implanter with a chuck disposed in the ion implantation chamber for supporting the substrate, which is tilted at a predetermined angle with respect to an advancing direction of the ion beam; a first driving unit for rotating the substrate about a central axis of the substrate in order to change an incidence angle of ion beam; and a shadow jig for intercepting a portion of the ion beam in order to form a shadow on the substrate during the ion implantation process, wherein the shadow is formed to monitor whether the substrate has been normally rotated during the ion implantation process.

The dependent claims 2-10, 12-17 and 23, 19-22, and 25-40, are allowable by virtue of their dependence upon the independent claims 1, 11, 18, and 24, respectively.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. R.J.C. Mitchell (6,566,661 B1) and Ryding et al. (6,555,832 B1) disclose an ion implanter with a beam and wafer angle alignment arrangement wherein the substrate tilt and rotation are considered. Larsen et al. (6,690,022 B2) disclose an ion implanter with a device for measuring the incident angle of the ion beam impinging onto a planar substrate.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

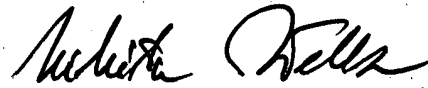
5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikita Wells whose telephone number is (571) 272-2484. The examiner can normally be reached on 8:30 AM - 5:00 PM. If attempts to reach the examiner by

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telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Nikita Wells, Primary Examiner
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May 13, 2004